National Institute of Environmental Health Sciences

Children are likely to suffer most from our fossil fuel addiction

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Year: 2008
Journal: Environmental Health Perspectives. 116 (8): 987-990

Abstract:

BACKGROUND: The periods of fetal and child development arguably represent the stages of greatest vulnerability to the dual impacts of fossil fuel combustion: the multiple toxic effects of emitted pollutants (polycyclic aromatic hydrocarbons, particles, sulfur oxides, nitrogen oxides, metals) and the broad health impacts of global climate change attributable in large part to carbon dioxide released by fossil fuel burning. OBJECTIVES: In this commentary I highlight current scientific evidence indicating that the fetus and young child are at heightened risk of developmental impairment, asthma, and cancer from fossil fuel pollutants and from the predicted effects of climate disruption such as heat waves, flooding, infectious disease, malnutrition, and trauma. Increased risk during early development derives from the inherently greater biologic vulnerability of the developing fetus and child and from their long future lifetime, during which early insults can potentially manifest as adult as well as childhood disease. I cite recent reports concluding that reducing dependence on fossil fuel and promoting clean and sustainable energy is economically feasible. DISCUSSION: Although much has been written separately about the toxicity of fossil fuel burning emissions and the effects of climate change on health, these two faces of the problem have not been viewed together with a focus on the developing fetus and child. Adolescence and old age are also periods of vulnerability, but the potential for both immediate and long-term adverse effects is greatest when exposure occurs prenatally or in the early years. CONCLUSIONS: Consideration of the full spectrum of health risks to children from fossil fuel combustion underscores the urgent need for environmental and energy policies to reduce fossil fuel dependence and maximize the health benefits to this susceptible population. We do not have to leave our children a double legacy of ill health and ecologic disaster.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2516589

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Unspecified Exposure

Air Pollution: Other Air Pollution

Air Pollution (other): PAHs

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co–Harm (Adaption/Mitigation): ☑

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact: ☑

specification of health effect or disease related to climate change exposure

General Health Impact

Intervention: ☑

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Mitigation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children

Resource Type: ☑

format or standard characteristic of resource

Policy/Opinion

Timescale: ☑

time period studied

Time Scale Unspecified